

§ 98.263

40 CFR Ch. I (7–1–10 Edition)

Combustion Sources) the emissions of CO₂, CH₄, and N₂O from each stationary combustion unit following the requirements of subpart C of this part.

§ 98.263 Calculating GHG emissions.

You must calculate and report the annual process CO₂ emissions from each wet-process phosphoric acid process line using the procedures in either paragraph (a) or (b) of this section.

(a) Calculate and report under this subpart the process CO₂ emissions by operating and maintaining a CEMS ac-

cording to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) Calculate and report under this subpart the process CO₂ emissions using the procedures in paragraphs (b)(1) and (b)(2) of this section.

(1) Calculate and report the process CO₂ emissions from each wet-process phosphoric acid process line using Equation Z-1 of this section:

$$E_m = \sum_{i=1}^b \sum_{n=1}^z (IC_{n,i} * P_{n,i}) * \frac{2000}{2205} * \frac{44}{12} \quad (\text{Eq. Z-1})$$

Where:

E_m = Annual CO₂ mass emissions from a wet-process phosphoric acid process line m (metric tons).

IC_{n,i} = Inorganic carbon content of a grab sample batch of phosphate rock by origin i obtained during month n, from the carbon analysis results (percent by weight, expressed as a decimal fraction).

P_{n,i} = Mass of phosphate rock by origin i consumed in month n by wet-process phosphoric acid process line m (tons).

z = Number of months during which the process line m operates.

b = Number of different types of phosphate rock in month, by origin. If the grab sample is a composite sample of rock from more than one origin, b=1.

2000/2205 = Conversion factor to convert tons to metric tons.

44/12 = Ratio of molecular weights, CO₂ to carbon.

(2) You must determine the total emissions from the facility using Equation Z-2 of this section:

$$CO_2 = \sum_{m=1}^p E_m \quad (\text{Eq. Z-2})$$

Where:

CO₂ = Annual process CO₂ emissions from phosphoric acid production facility (metric tons/year).

E_m = Annual process CO₂ emissions from wet-process phosphoric acid process line m (metric tons/year).

p = Number of wet-process phosphoric acid process lines.

(c) If GHG emissions from a wet-process phosphoric acid process line are vented through the same stack as any combustion unit or process equipment that reports CO₂ emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.

§ 98.264 Monitoring and QA/QC requirements.

(a) You must obtain a monthly grab sample of phosphate rock directly from the rock being fed to the process line. Conduct the representative bulk sampling using the applicable standard method in the Phosphate Mining States Methods Used and Adopted by the Association of Fertilizer and Phosphate Chemists AFPC Manual 10th Edition 2009—Version 1.9 (incorporated by reference, see § 98.7). If phosphate rock is obtained from more than one origin in a month, you must obtain a sample from each origin of rock or obtain a composite representative sample.